REMARKS

On page 2 of the Office Action, the Examiner rejects Claims 71-78 under 35 U.S.C. § 112, first paragraph as lacking written description.

On page 3 of the Office Action, the Examiner contends, *inter alia*, that SEQ ID NO:15, which corresponds to the human Bcl9 protein is a species within the scope of the claimed invention and meets the written description requirement. However, the Examiner contends that Claims 71-78 are directed to a much broader genus of polypeptides wherein the polypeptides comprise any one of the small homology regions specified, including full-length polypeptides from other species, and mutated versions of the full-length polypeptides, polypeptides encoded by allelic variants and splice variants, derivatives and variants of these polypeptides, and polypeptides comprising a fragment of unspecified length, wherein there is a common epitope with Bcl9/hLgs. The Examiner considers that none of these additional amino acid sequences meet the written description requirement.

For the following reasons, Applicants respectfully traverse the Examiner's rejection.

The Examiner is requested to note that the invention is directed to an isolated polypeptide which blocks lgs function in colon cancer cells wherein the polypeptide comprises:

(1) a peptide consisting of amino acids 177 to 204 of SEQ ID NO:15 and which blocks Lgs function in colon cancer cells,

(2) a peptide having at least 90% amino acid sequence identity to a peptide consisting of amino acids 177 to 204 of SEQ ID NO:15 and which blocks Lgs function in colon cancer cells,

(3) a peptide consisting of amino acids 349 to 383 of SEQ ID NO:15 and which blocks Lgs function in colon cancer cells,

(4) a peptide having at least 90% amino acid sequence identity to a peptide consisting of amino acids 349 to 383 of SEQ ID NO:15 and which blocks Lgs function in colon cancer cells,

(5) a peptide consisting of amino acids 199 to 392 of SEQ ID NO:15 and which blocks Lgs function in colon cancer cells,

(6) a peptide having at least 90% amino acid sequence identity to a peptide consisting of amino acids 199 to 392 of SEQ ID NO:15 and which blocks Lgs function in colon cancer cells, and

(7) a fragment of peptide (5) or (6), wherein said fragment binds to an anti-Bcl9/hLgs antibody and blocks Lgs function in colon cancer cells.

Applicants respectfully submit that the Examiner has failed to appreciate that Claims 71 and 72 (and the claims dependent thereon) all require that the claimed isolated polypeptides "block Lgs function in colon cancer cells", i.e., "inhibit tcf-driven luciferase activity in colon cancer calls".

It is the homology regions (HD1 or HD2) which act to block this Lgs function in colon cancer cells, and that the remaining

sequences which may be present in the larger polypeptides are not critical to the invention.

Furthermore, the Examiner has failed to appreciate that the 90% homology refers to the peptide, and not the larger polypeptide. Thus, for example, there are 27 amino acids in the peptide of (i) and 34 amino acids in peptide (ii). A peptide having 90% homology with peptide (i) has no more than 2 different amino acids, while a peptide having 90% homology with peptide (ii) has no more than 3 different amino acids.

As to Claim 72 (and the claims dependent thereon), the Examiner is requested to note that the peptide of amino acids 199-393 will inherently block Lgs function in colon cancer cells, and that the isolated polypeptide comprising peptide (ii) specifically recites that it "blocks Lgs function in colon cancer cells", i.e., "inhibit tcf-driven luciferase activity in colon cancer cells". Further, a peptide having 90% homology with peptide (i) has no more than 19 different amino acids.

Additionally, the fragment of peptide (iii) of Claim 72 is a fragment of peptide (i) or (ii) which contains a binding site for an anti-Bcl9/hLgs antibody. The Examiner is requested to note that an epitope is typically only 6-12 amino acids.

Thus, the claims clearly include functional and structural limitations, i.e., the claims do not cover, e.g., a fragment which comprises the binding site for anti-Bcl9/hLgs antibody with as little as one amino acid in common with the species described by the specification, as contended by the Examiner.

Note, Applicants hereby amend the claims to clarify that both the isolated polypeptide and the peptide block Lgs

function, i.e., "inhibit tcf-driven luciferase activity", in colon cancer cells, as shown by Figure 15B.

Accordingly, Applicants respectfully submit that the claims do have written description in the specification, and thus request withdrawal of the Examiner's rejection.

On page 6 of the Office Action, the Examiner rejects Claims 13-16, 22, 21, 23, 24, 44 and 63 under 35 U.S.C. § 102(e) as being anticipated by Tang et al.

The Examiner notes that, with respect to Claims 71-78, Applicants argue that these claims are directed to polypeptides comprising peptide fragments of SEQ ID NO:15, and that the peptide disclosed by Tang et al does not block legless function in colon cancer cells as evidenced by Figure 15 of the present specification, which is used as a positive control.

However, the Examiner contends that this argument is not persuasive because the polypeptide disclosed by Tang et al comprises the specifically claimed fragments.

For the following reasons, Applicants respectfully traverse the Examiner's rejection.

The Examiner fails to appreciate that the polypeptide disclosed by Tang et al contains <u>both</u> the HD1 and HD2 domains, and as a result, the polypeptide does <u>not</u> block Legless function in colon cancer cells. The polypeptide of the present claims do <u>not</u> contain both of these additional domains, i.e., they contain, e.g., either an HD1 domain (or a peptide 90% homologous thereto) or an HD2 domain (or a peptide 90% homologous thereto) because the claimed polypeptide <u>does</u> block legless function in colon cancer cells. Thus, the polypeptide disclosed by Tang et

al which contains both domains and does not block Legless function in colon cancer cells is not claimed.

The Examiner further contends that the experiment conducted in Figure 15B does not appear to use the polypeptides of Tang et al as a positive control, but rather cites Rose et al as the peptide used as a positive control. It is the Examiner's position that Figure 15 makes no reference at all to the polypeptides disclosed by Tang et al.

The Examiner is requested to note that hLgs/Bcl9 described in Figure 15B correspond to the sequence of Tang et al (i.e., is 97% identical) and contains both the HD1 and HD2 domains. hLgs/Bcl9 is a positive control, in the sense that it results in the presence of tcf-driven luciferase activity in colon cancer cells. On the other hand, dnTcf4 of Rose et al is a positive control for inhibition (blockage) of tcf-driven luciferase activity in colon cancer cells.

The Examiner further notes that the experiment disclosed in Figure 15B examines luciferase expression as one measure of legless function. The Examiner contends that legless function is very broad and encompasses many functions beyond the one function examined by experiment of Figure 15B.

As discussed above, Applicants hereby amend the claims to set forth that the polypeptide/peptide "inhibits tcf-driven luciferase activity in colon cancer cells".

Accordingly, Applicants respectfully submit that the present invention is not taught or suggested in Tang et al, and thus request withdrawal of the Examiner's rejection.

The Examiner is invited to contact the undersigned at his Washington telephone number on any questions which might arise.

Respectfully submitted,

Gordon Kit
Registration No. 30,764

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
23373
CUSTOMER NUMBER

Date: February 27, 2004